

AMENDMENTS TO THE DRAWINGS:

Please replace the originally-filed drawing sheet containing Fig. 3 with the attached Replacement Drawing sheet, which includes amended Fig. 3. Fig. 3 has been amended to add the label, "Fig. 3." No new matter has been added.

REMARKS

By this Amendment, Applicants have amended Fig. 3 to add the label, "Fig. 3."

No new matter has been added.

As an initial matter, Applicants appreciate the Examiner's indication that claims 60 and 61 contain allowable subject matter. See Office Action at 8. Applicants respectfully decline to rewrite those claims in independent form because Applicants believe that claim 48, from which those claims depend, is allowable in its present form for at least the reasons outlined in more detail herein.

I. Status of the Claims

Claims 67-94 have been withdrawn from further consideration as being directed to non-elected subject matter. Office Action at 2. Thus, claims 48-66 have been examined and are pending on the merits.

II. Objection to the Specification

In the Office Action, the specification was objected to as lacking appropriate section headings. See Office Action at 3. Applicants respectfully submit that the originally-filed application was amended to include section headings via a Preliminary Amendment filed on January 4, 2006. For the Examiner's convenience, Applicants have attached herewith a copy of the Preliminary Amendment, along with a USPTO dated-stamped postcard receipt indicating receipt of the Preliminary Amendment by the U.S. Patent and Trademark Office. In the event that the Preliminary Amendment has not already been entered, Applicants respectfully request entry of the amendments

included therein. In view of these circumstances, Applicants respectfully request reconsideration and withdrawal of the objection to the specification.

III. Objection to the Drawings

The drawings were objected to because Fig. 3 is not labeled. Office Action at 3. By this Amendment, Applicants have submitted a Replacement Sheet in compliance with 37 C.F.R. § 1.121(d), including an amended version of Fig. 3, which includes the label, "Fig. 3." Therefore, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings.

IV. Claim Rejection under 35 U.S.C. § 103(a) based on Wilson and Frey

Claims 48-59 and 62-66 have been rejected under 35 U.S.C. § 103(a) based on U.S. Pat. App. Pub. No. US 2003/0058118 to Wilson ("Wilson") in combination with U.S. Patent No. 5,749,984 to Frey et al. ("Frey"). Office Action at 5. Claims 48 and 62 are the only independent claims included in this claim rejection. Applicants respectfully submit that each of those independent claims is patentably distinguishable from Wilson and Frey because, regardless of whether those references are viewed individually or as a whole, they fail to render independent claims 48 and 62 *prima facie* obvious for at least the reasons outlined below.

A. Independent Claim 48

Applicants' independent claim 48 is directed to a method for determining a load exerted on a tyre, the method including, *inter alia*, "acquiring a first signal comprising a

first signal portion representative of a radial deformation; measuring an amplitude of the radial deformation in the first signal portion; . . . and deriving the load exerted on the tyre from the amplitude, [a] rotation speed, and [an] inflation pressure” Neither Wilson nor Frey discloses at least this subject matter recited in independent claim 48, and thus, this subject matter is not *prima facie* obvious based on those references.

Rather than disclosing a method including “deriving the load exerted on [a] tyre from the amplitude [of the radial deformation in a first signal portion representative of a radial deformation of the tyre],” Wilson discloses determining the load on a tire based on tire pressure, tread width, and tire-road contact length. (Wilson at p. 12, ¶ [0178].) In particular, Wilson discloses that

the tire load is related to the tire pressure, tread width, and tire-road contact length as

$$\text{load} = \alpha \times \text{treadWidth} \times \text{contactLength} \times \text{pressure} + \text{forceSidewall}$$

. . .

where *treadWidth* is the width of the tread, *treadWidth* x

contactLength is the area of applied pressure, [and] *forceSidewall*

is the effective resiliency of the tire sidewall to collapse

(Id. at p. 12, ¶¶ [0178]-[0179].) Thus, rather than deriving the load exerted on a tire from the amplitude of a radial deformation, Wilson discloses determining load based on tread width and contact length of the area of applied pressure between the tire and the surface on which the tire is rolling. Further, Wilson discloses determining the contact length by determining the length of a chord of a circle defined by two deflection points at either end of the portion of the tire deformed along the point of contact with the surface

on which the tire is rolling. (Id. at p. 11, ¶¶ [0161]-[0164].) Wilson does not disclose, however, that the chord length is determined based on measuring an amplitude of radial deformation of the tire. Rather, it is determined based on the geometry of the un-deformed tire, the rotation rate of the tire, and the time measured between deflections of the tire as it rotates. (Id.)

As noted in Applicants' originally-filed specification, the method disclosed in Wilson may suffer from a number of potential drawbacks. First, the complexity of the system required for Wilson's disclosed method may render it economically and/or technically unfeasible. (See Applicants' Specification at p. 4, lines 1-8.) Further, Wilson's disclosed method relies on an approximation of the area of contact between the tire and the surface on which it rolls. In particular, the area of contact is approximated by the tread width multiplied by the contact length, which results in a rectangular area. In reality, the contact area is not rectangular. Thus, Wilson's approximation may yield inaccuracies in the load calculation. In addition, Wilson's method of determining load includes the addition of the effective resiliency of the tire sidewall to collapse (*forceSidewall*), which may be difficult to accurately determine, thereby adding to the potential inherent inaccuracy associated with Wilson's disclosed method of determining load on a tire.

Turning to the rejection statement, it asserts that Wilson discloses "measuring an amplitude of the radial deformation in the first signal portion (see figure 5, peak to peak acceleration is representative of amplitude of the radial deformation) . . . ; and deriving the load exerted on the tire from the amplitude (see abstract)." Office Action at 5-6.

Applicants respectfully disagree with the rejection statement's interpretation of Wilson. Although Wilson discloses using an accelerometer to detect deformation of the tire, as shown in Fig. 5, Wilson does not derive the load exerted on the tire based on the *amplitude* of the deformation. As outlined above, Wilson determines the load exerted on the tire via determining the contact length, which, in turn, is determined base on the time period between deflection points and the rate of rotation of the tire. For at least this reason, Wilson fails to disclose deriving the load exerted on a tire from the amplitude of radial deformation of the tire.

Frey fails to overcome the above-noted deficiency of Wilson. Frey discloses a system for monitoring and measuring the amount of deflection of a tire via a ratio of the time in which a sensor spends inside a contact patch of the tire to the time in which the sensor spends outside the contact patch of the tire. (Abstract.) Thus, similar to Wilson, Frey fails to disclose deriving the load exerted on a tire from the amplitude of radial deformation of the tire.

For at least the above-outlined reasons, Wilson and Frey, regardless of whether they are viewed individually or as a whole, fail to disclose or render obvious all of the subject matter recited in Applicants' independent claim 48. As a result, independent claim 48 is not *prima facie* obvious based on those references. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection of independent claim 48 under 35 U.S.C. § 103(a) based on Wilson and Frey.

B. Independent Claim 62

Applicants' independent claim 62 is directed to a method of controlling a vehicle, the method including, *inter alia*, "determining a load exerted on . . . at least one tyre . . . , wherein the load exerted on the at least one tyre is determined by a method comprising: acquiring a first signal comprising a first signal portion representative of a radial deformation; measuring an amplitude of the radial deformation in the first signal portion; . . . and deriving the load exerted on the tyre from the amplitude, [a] rotation speed, and [an] inflation pressure" For reasons at least similar to those outlined above with respect to independent claim 48, Wilson and Frey, regardless of whether they are viewed individually or as a whole, fail to disclose or render obvious at least this subject matter recited in independent claim 62. Thus, independent claim 62 is not *prima facie* obvious based on those references, and Applicants respectfully request reconsideration and withdrawal of the rejection of independent claim 62 under 35 U.S.C. § 103(a) based on Wilson and Frey.

C. Dependent Claims 49-59 and 63-66

Each of claims 49-59 and 63-66 depends from a respective one of independent claims 48 and 62. Thus, dependent claims 49-59 and 63-66 should be allowable for at least the same reasons as independent claims 48 and 62. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 49-59 and 63-66 under § 103(a) based on Wilson and Frey.

V. Conclusion

For at least the above-outlined reasons, Applicants' claims 48-59 and 62-66 should be allowable. Further, the Examiner indicated that claims 60 and 61 contain allowable subject matter. See Office Action at 8. Thus, all of claims 48-66 should be allowable. Accordingly, Applicants respectfully request reconsideration of this application, withdrawal of the objections and claim rejection, and allowance of claims 48-66.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicants' undersigned attorney at (404) 653-6559.

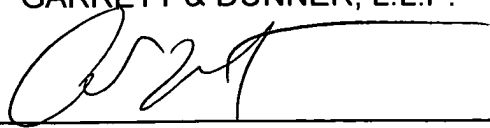
Applicants respectfully submit that the Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this Amendment and charge any additional required fees to our Deposit Account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: February 4, 2009

By: 
Christopher T. Kent
Reg. No. 48,216

Attachments:

1. Replacement Drawing including Fig. 3; and
2. Copy of Preliminary Amendment filed January 4, 2006, and corresponding USPTO dated-stamped Postcard Receipt.



PATENT
Customer No. 22,852
Attorney Docket No. 07040.0244.00000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
)
Massimo BRUSAROSCO et al.) Group Art Unit: Not yet assigned
)
Application No.: Not yet assigned) Examiner: Not yet assigned
)
Filed: January 4, 2006) Confirmation No.: Not yet assigned
)
For: METHOD AND SYSTEM FOR)
DETERMINING A TYRE LOAD)
DURING THE RUNNING OF A)
MOTOR VEHICLE)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of the above-captioned application, please amend this application as follows.

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims that begins on page 5 of this paper.

REMARKS begin on page 17 of this paper.

An Attachment follows page 17 of this paper. The Attachment includes an Abstract of the Disclosure labeled as page 30.